

REMARKS

Drawings

Applicant proposed to amend Figure 4A to show portions of a string, which has been identified by reference numeral 311. No new matter has been added. Applicant requests the Examiner to approve the drawing change and withdraw the rejection.

Specification

The Examiner's suggestion for amending page 2, line 18 is noted. However, the Applicant believes that the above-noted amendment is more appropriate. Applicant has also amended page 22, line 24 and page 23, line 6 to add the reference numeral "311" to identify the string. No new matter has been added.

Claim Objections

Applicant has amended claim 59 to correct the deficiency noted by the Examiner.

Claim Rejections – 35 U.S.C. §102

Claims 36-38, 41-44, 47, 50 and 53-59 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 4,310,050 to Bourgoyne, Jr.

With regard to claim 36, the Examiner suggests that Bourgoyne discloses, in Figures 11-13, a downhole bypass tool comprising a flow restriction that is operatively associated with an operative sleeve 41 and located upstream of a port 48, and the restriction is configured to create a fluid flow related force on the sleeve 41 for moving the sleeve to open the body port following landing of the activating device. Applicant respectfully submits that the Examiner has misinterpreted the disclosure of Bourgoyne.

The Examiner makes reference to a flow restriction in the area of elements 56 and 57 in Figures 12 and 13. Applicant acknowledges that there is a tapering fluid passage defined by the upper end of the actuators of Figures 12 and 13. However, the passage is configured

to form a ball seat to catch and form a seal with a ball 66. The ball seat is not intended to create a fluid flow related force on the actuator. Furthermore, the ball seat will not create any fluid flow related force on the actuator. In the actuator of Figure 12 any fluid flow related force acting on the actuator is created by means of the orifice 62, across which a constant pressure differential will exist in use. Clearly, the orifice 62 will be located downstream of the ports 48. The presence of the orifice 62 downstream of the ball seat will of course significantly restrict the flow of fluid through the actuator, with the result that the ball seat will not serve to restrict flow and there will be no pressure differential across the seat.

The Examiner further suggests that the beveled upper portion 41a of the sliding sleeve 41 forms a flow restriction configured to create a fluid flow related force. Again, Applicant respectfully submits that the Examiner has misinterpreted the teaching of Bourgoyne. As noted at column 10, lines 10-12, the lower extremity of the actuator sleeve 56 is beveled to meet and land upon the upper beveled surface 41a of the sleeve 41 of the landing nipple. Thus, when the actuator is in place within the landing nipple, the beveled surface 41a will not be exposed to fluid flow, and will not serve as a flow restriction. Furthermore, as noted above, the configuration of the actuator is such that the minimum flow area through the actuator is defined by the orifice 62, and the fluid flow related force across the actuator is a result of the pressure differential which exists across the orifice 62.

Thus, claim 36 is clearly not anticipated by Bourgoyne, Jr. Dependent claims 37 and 38, and claims 41-44, must also be considered allowable at least upon the basis of them being dependent from an allowable base claim.

With respect to claim 47, the Examiner suggests that Bourgoyne inherently discloses a method of providing fluid bypass in a downhole string, the method including the step of passing fluid through a string, body and operating sleeve, and also a flow restriction

operatively associated with the operating sleeve located upstream of a port, at selected flow rates to create selected fluid flow related forces on the operating sleeve to move the sleeve to open the port.

As noted above, the differential pressure force created across the actuator of Bourgoyne, and which is employed to move the sliding sleeve 41, is provided solely by the orifice 62. When the actuator is located within the landing nipple diverter, the orifice 62 will be located at the upper end of the polished bottom bore 47 (that is below the ports 48). Thus, Bourgoyne does not anticipate claim 47, which recites the step of passing fluid through a flow restriction located upstream of the port in order to create fluid flow related forces.

In respect to claim 50, the Examiner will note that the claim has been amended to recite that the flow responsive means cycles the activated tool between the first and second configurations in response to variations in fluid flow rate through the tool and sleeve between a first fluid flow rate of a normal operational level for drilling operations and a higher second fluid flow rate. This amendment more clearly distinguishes the present invention from Bourgoyne. In particular, when the actuator of Bourgoyne is in place in the landing nipple diverter, the flow rate of fluid through the actuator is such that drilling is not possible. Indeed, Bourgoyne discloses that it is necessary to remove the actuator assembly from the landing nipple diverter if drilling operations are to be resumed after completion of the well control operations made possible by the apparatus of Bourgoyne (see column 10, lines 35-52). Thus, amended claim 50 is clearly distinguished from Bourgoyne.

Claims 53, 54, 55, 56, 57 and 58 must also be considered to be allowable at least on the basis of their dependency from an allowable base claim.

In respect to claim 59, Examiner will note that the claim has been amended to incorporate the subject matter of claim 60 (now cancelled). The Examiner had indicated that

claim 60 would be allowable if rewritten in independent form including all of the limitations of the base and any intervening claims. Accordingly, the Examiner should also find amended claim 59 allowable.

Claims 47-49 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,189,618 to Beeman et al.

The Examiner suggests that, with regard to claim 47, Beeman et al. disclose a method of providing fluid bypass in a downhole string including the step of passing fluid through a string, body and operating sleeve, and also a flow restriction operatively associated with the operating sleeve and located upstream of a port, at selected flow rates to create a selected fluid flow related force on the operating sleeve to move the sleeve to open the port.

Applicant respectfully submits that the Examiner has misinterpreted the teaching of Beeman et al. In particular, the Examiner refers to a passage of Beeman et al. at column 5, lines 44-50. Also, the Examiner has previously equated the piston 50 of Beeman et al. with the claimed operating sleeve. In Beeman et al., the piston 50 is moved to open the lower wash ports 26 by dropping a ball 60 into the piston 50 to sealingly abut a seat 59 of the piston 50, closing off fluid flow through the piston 50 and hence through the mandrel 20.

The last step recited in claim 47 requires fluid to pass through the string, body and sleeve. Clearly, this is not the case in Beeman et al., in which the ball 60 serves to close off fluid flow through the piston 50. Thus, claim 47 is patentably distinguished from the teaching of Beeman et al.

Claims 48 and 49 must also be considered to be allowable at least based upon their dependency upon an allowable base claim.

Claim Rejections – 35 U.S.C. §103

Various dependent claims were the subject of obviousness rejections. However, Applicant submits that all of these claims are allowable because of their dependency on an allowable base claim as discussed above.

Allowable Subject Matter

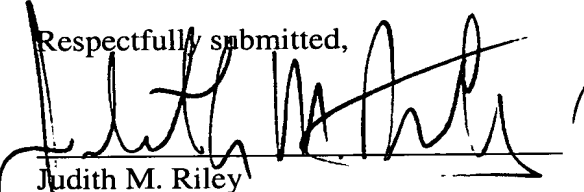
Claims 60-62 were objected to as being dependent upon a rejected based claim, but were indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As noted above, the subject matter of claim 60 has now been incorporated in claim 59, and original claim 60 cancelled. Furthermore, new claim 63 corresponds to claim 62 rewritten in independent form, including all of the limitations of original claim 59.

In summary, Applicant has obviated by appropriate amendment all grounds of §102(b) and §103 rejections, and has also overcome all the objections as to form. Accordingly, the application is now in condition for allowance, and Applicant respectfully solicits expeditious notice thereof.

Should the Examiner have any suggestions or comments, Applicant requests him to contact the undersigned attorney at the office number below.

Respectfully submitted,



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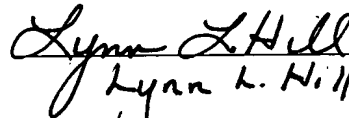
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